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ABSTRACT

A study examined employment probabilities for a sample of out-of-school black and white male youths living in 35 large metropolitan areas to investigate the metropolitan contingency of the spatial mismatch effect. Individual-level data were drawn from the 1.0 percent (B) sample of the 1990 Public Use Microdata Sample (U.S. Bureau of the Census 1993). Logistic regression analysis centered around three questions: (1) whether living in central-city neighborhoods affects employment probabilities; (2) if so, whether the effect varies between metropolitan areas; and (3) what factors accounted for observed inter-metropolitan variability in the central-city employment effect. The study supported the generalization that central-city youths were less likely to be employed than suburban youths, even when relevant individual- and family-level factors were controlled for. White male youths appear to suffer a greater disadvantage than black youths. The analysis also reveals that the magnitude and direction of the central city-suburbs employment difference vary considerably between metropolitan areas. In addition, the magnitude of the central city-suburban employment difference was systematically related to economic and spatial characteristics of metropolitan labor markets. The most significant finding was that spatial inaccessibility to employment could not be considered a universal problem faced by youths living in central-city neighborhoods in all metropolitan areas. (Appendixes contain a list of 43 references, 4 tables, and 4 figures.) (YLB)

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THE METROPOLITAN CONTINGENCY OF THE MALE YOUTH CENTRAL-CITY EMPLOYMENT DISADVANTAGE

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WP–018
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Abstract

Many argue that growing spatial inaccessibility to decentralizing employment opportunities is a major factor explaining the growing crisis of joblessness among central-city minority youths. I argue that the magnitude of the employment disadvantage suffered by youths living in central-city neighborhoods depends on which metropolitan area you look at. Metropolitan areas differ substantially from one another in internal spatial structure, the overall health of the labor market, and the composition of labor demand. Logistic regression analysis of employment probabilities for a sample of white and black male youths living in 35 large metropolitan areas confirms that the central-city employment disadvantage varies across metropolitan areas, and is systematically related to spatial and structural characteristics of the metropolitan labor market

The Metropolitan Contingency of the Male Youth Central-City Employment Disadvantage

1. Introduction

Minorities living in central-city neighborhoods face a multitude of social and economic disadvantages. Some argue that a deepening "spatial mismatch" between residential and job locations is an important explanation for the growing crisis of joblessness faced by blacks (especially young black men) over the last twenty to thirty years (Kasarda 1985, 1988; Wilson 1987). With the relocation of economic activities from central cities to suburban and non-metropolitan areas, minorities living in central cities increasingly find suitable job opportunities geographically distant and arguably more difficult to obtain (Kain 1968; Kasarda 1985, 1988). Review of the literature shows, however, that the so-called "spatial mismatch hypothesis" has received only partial empirical support (Cooke 1993; Holzer 1991; Jencks and Mayer 1990). Even so, previous efforts to examine the spatial mismatch hypothesis suffer by not recognizing the extent to which metropolitan areas differ from one another. The answer to the question "Does living in the central city affect the probability of being employed?" depends on which metropolitan area you consider.

The purpose of this paper is to examine the employment impact of central-city residence for evidence of inter-metropolitan variability. This paper specifically addresses and answers three research questions. One, does living in the central city reduce the probability of being employed for black or white male youths? Based on an analysis of individual-level Census data, black and white male youths living in central-city neighborhoods generally exhibit employment probabilities lower than similar youths living in suburban neighborhoods,

even when personal characteristics are controlled. Two, does the employment effect of living in the central city vary between metropolitan areas? The degree to which central-city residence imposes an employment disadvantage varies considerably between metropolitan areas for youths of both races, but especially for black male youths. In fact, youths living in central city neighborhoods appear to enjoy an employment advantage in some metropolitan areas. Three, if the employment effect of living in the central city is not constant, what factors explain the inter-metropolitan variability? While this study is exploratory in this regard, aggregate labor demand, the industrial and occupational composition of labor demand, the racial composition of the labor force, and the spatial structure of metropolitan areas affect the degree to which central-city residence affects employment probabilities.

2. The Spatial Mismatch and the Problem of Scale

The ideas that constitute what we now call the spatial mismatch hypothesis were first popularized in the academic literature by John F. Kain in an article (1968) analyzing the effect of residential segregation and economic decentralization on black male employment in Chicago and Detroit. Residential confinement of blacks to inner-city ghettoes by discriminatory housing market forces combined with the movement of employment to the suburbs account for the growing employment crisis faced by blacks. A sizable literature characterized by vigorous debate evolved around these ideas and has been effectively reviewed by Jencks and Mayer (1990) and Holzer (1991). To provide a foundation for the arguments presented in this paper, however, a brief and selective overview of this literature is warranted. At the risk of over-simplifying, four major aspects of the debate bear on the goals of this

study. First, while there is general agreement about the magnitude of job decentralization over the last several decades, considerable debate still exists over the degree to which decentralized employment (combined with racial segregation in centralized neighborhoods) presents a serious detriment to the prospects of finding employment for centralized minorities. This portion of the debate has largely centered on alternative explanations for minority economic disadvantage. Ellwood's influential study epitomizes the claim that "the problem isn't space. It's race." (1986: 181), i.e., that minorities face such significant labor market discrimination, past and present, that simple spatial inaccessibility cannot be the main problem.[1] Others have argued that the problem is a lack of education and training necessary for the increasingly high-skilled jobs located in the central city -- the so-called skills mismatch (Kasarda 1985, 1988, 1989). Wilson (1987, 1991a, 1991b) incorporated both skills and spatial mismatch ideas in his arguments about the structural transformation of the U.S. economy and its disproportionate impact on blacks living in isolated central-city neighborhoods. More recently, Ihlanfeldt and Sjoquist (1990a, 1990b, 1991) presented empirical evidence strongly supporting the argument that employment decentralization negatively impacts the employment outcomes of centralized minorities. In this study, I do not contend that the spatial mismatch is *the* most important explanation for the economic problems suffered by minorities living in central city neighborhoods. Still, considerations of spatial accessibility to employment and residential segregation may bear considerable importance *in certain locales*.

A second point of debate in the literature revolves around which labor market outcomes and processes are affected by the spatial mismatch. Kain's argument centered on

employment. Some analysts, however, examined suburban/central city differences in earnings and the earnings determination process (Danziger and Weinstein 1976; Price and Mills 1985) while others examined racial differences in commute-trip length (Wheeler 1968; Cooke and Shumway 1991; Gordon, Kumar, and Richardson 1989). This paper maintains the initial focus of Kain's original paper on employment problems. The social and economic crisis in many neighborhoods is mainly caused by a lack of employment (see Wilson 1987), even though centralized minorities may indeed suffer from a multitude of labor market disadvantages because of employment decentralization. Furthermore, too much of the literature has claimed to test THE spatial mismatch hypothesis (e.g., Gordon, Kumar, and Richardson 1989) when in fact they examined only an extension of the original theme.

A third point of debate in the spatial mismatch literature relevant to the present study centers on which groups are affected by the spatial mismatch. Kain's (1968) original study targeted adult black men. Ellwood (1986) and many subsequent analysts (Ihlanfeldt and Sjoquist 1990a, 1990b, 1991) targeted youths, especially black male youths, primarily because of the potential self-selection bias introduced by migration of older age groups. Others argued that the domain of the spatial mismatch should be broadened to include all secondary labor market employees, women, and other minorities (e.g., Cooke and Shumway 1991, McLafferty and Preston 1992, Santiago and Wilder 1991). While extending the original argument to other groups is valid and warrants further research, this paper maintains a focus on black and white male youths for two reasons. One, research on the effects of urban spatial structure on the labor market experiences of women and other ethnic groups draws attention away from the perverse combination of residential segregation and employment

decentralization that motivates the core of the spatial mismatch literature. Two, following Ellwood (1986), Ihlanfeldt and Sjoquist (1990a, 1990b, 1991) and others, I focus on male youths because youths living at home with their parents or extended families are the group most likely to be affected by spatial considerations. Ultimately, despite the need to consider the impact of urban spatial structure on other groups and labor market processes, some considerable degree of confusion still surrounds the basic ideas of the spatial mismatch hypothesis.

A fourth point of confusion in much of the spatial mismatch literature concerns geographic scale. Kain's original study and many subsequent studies were conducted in one or a few metropolitan areas (e.g., Davies and Huff 1972; Ellwood 1986; Lewin-Epstein 1986; Cooke 1993). The contention of such studies is that residents of centralized neighborhoods suffer disadvantage in the labor market *relative to residents of other neighborhoods in the same metropolitan area.* Studies conducted at this scale have provided mixed results. Ellwood's (1986) examination of Chicago did not find evidence, while Kain's original study and Ihlanfeldt and Sjoquist analysis of Philadelphia (1990a) found strong evidence supporting the spatial mismatch hypothesis. Other studies, however, have focused on differences between metropolitan areas (Mooney 1969; Farley 1982, 1987; Ihlanfeldt and Sjoquist 1991). The often implicit assumption of these studies is that residents of metropolitan areas characterized by a high degree of spatial mismatch suffer labor market disadvantages *relative to residents of other metropolitan areas.* Relatively consistent empirical support for the spatial mismatch hypothesis has come from studies conducted at this scale. For example, Ihlanfeldt and Sjoquist (1991) used a measure of average travel time to work as an indicator of

inter-metropolitan variations in the severity of the spatial mismatch. In a logistic regression analysis, they demonstrated that their measure of spatial structure had a significant effect on the employment probabilities of youths living in central city neighborhoods of large metropolitan areas.

Previous studies thus leave us ambiguous about the spatial mismatch hypothesis. Does it speak to central-city labor market disadvantages relative to suburban neighborhoods in the same metropolitan areas, or the disadvantages of being in one metropolitan area versus another? Rather than limit our analysis to a single geographic scale, we should continue to focus on the labor market disadvantages caused by living in central-city neighborhoods relative to other neighborhoods in the same city, yet recognize that the *degree* to which certain neighborhoods cause disadvantage varies across metropolitan areas, and is influenced by area characteristics. The geographic context of a central-city neighborhood is itself embedded in the larger geographic context of the metropolitan area. Objective and perceived opportunity structures embodied by metropolitan areas vary considerably along several potentially relevant dimensions. One, labor market conditions vary considerably between metropolitan areas. Youths' employment prospects have been shown in past research to be very responsive to the level of labor demand (i.e., the tightness of the local labor market), the composition of labor demand (i.e., what kind of jobs are available in the local labor market), and the degree to which youths face competition for jobs from other demographic groups. Youths living in central cities of metropolitan areas with local labor market conditions favorable to their employment may experience less of a disadvantage than centralized youths living in areas with less favorable labor market conditions. Two, the spatial structure of metropolitan areas varies

considerably. For example, compare Chicago with Los Angeles, and each of these areas with Atlanta. Each of these metropolitan areas is large, yet they are spatially structured in very different ways, including the distribution of residences (note differences in racial segregation, Massey and Denton 1993) and potential job opportunities. We must recognize the metropolitan contingency of the spatial mismatch effect if we are to conceptualize it as the disadvantage of living in central-city neighborhoods relative to other neighborhoods in the same metropolitan area.

3. Data and Methods

I examined employment probabilities for a sample of out-of-school black and white male youths living in 35 large metropolitan areas to investigate the metropolitan contingency of the spatial mismatch effect. Individual-level data were drawn from the 1.0% (B) sample of the 1990 Public Use Microdata Sample (PUMS) (U.S. Bureau of the Census 1993). The sample consisted of non-institutionalized civilian black and white male youths (16 to 24 years old). The sample was restricted to youths living at home to avoid sample-selection bias stemming from self-initiated migration within or between metropolitan areas. The same rationale is used to restrict the sample to civilian and non-institutionalized youths (see Holloway 1993 for a more detailed discussion of these issues). The analysis is limited to black and white youths in part because the concentration of other minority groups in a few metropolitan areas makes it difficult to generate sample sizes large enough to sustain the analysis. Metropolitan-level variables were calculated from the PUMS data and attached to the individual-level data.

The 35 metropolitan areas included in this analysis were selected from the 100 largest metropolitan statistical areas (MSAs) as defined in the 1990 Census to provide accurate determination of individual's residential location. The smallest geographic unit that the Bureau of the Census uniquely identifies on the individual-level records is the Public Use Microdata Area (PUMA), which is an arbitrary aggregation of smaller spatial units designed to ensure privacy by having at least 100,000 residents in each PUMA. Some PUMAs in the 1% sample are entirely within the central city, others are entirely outside of the central city, and others include both central city and suburban territory. Metropolitan areas that did not have any PUMAs entirely within the central city were not included in the analysis. Individuals were classified as living in the central city if their PUMA was identified as laying entirely within the central city. Preliminary analysis examining the impact of alternative specifications (for example, classifying as central city PUMAs that include any portion of the central city) found virtually no difference.

Analysis centered around the three questions introduced at the beginning of the paper: (1) does living in central-city neighborhoods affect employment probabilities?, (2) if so, does the effect vary between metropolitan areas?, and (3) what factors account for observed inter-metropolitan variability in the central-city employment effect? Simple descriptive statistics, maps, and logistic regression are used to answer these questions.

4. Is There A Central-City Employment Effect?

Black male youths living in central-city neighborhoods are employment at a rate of 49% (N=2131), while 58% (N=1070) of black male youths living in suburban neighborhoods are

employed. White male youths experience employment rates of 76% (1964) in central-city neighborhoods and 81% (N=7081) in suburban neighborhoods. The employment rate difference between male youths living in central-city and suburban neighborhoods is statistically significant ($p < .01$) for blacks and whites, according to an analysis of variance (ANOVA) multiple comparisons test.

An appropriately specified individual-level employment probability model including an effects-coded indicator variable for central city residence[2] was estimated with logistic regression for male youths of each race to address potential differences in personal characteristics related to employment and residential location.

$$\ln \frac{P_1}{P_0} = b_0 + b_1 CC_i + \mathbf{b}' \mathbf{X}_i \qquad (1)$$

where P_1 is the probability of being employed, P_0 is the probability of being not employed, CC_i is the effects-coded indicator variable representing residence in the central city (yes = 1, no = -1), and $\mathbf{X}_i$ is a vector of K-1 additional individual- and family-level independent variables (see Table 1 for definitions and descriptive statistics). Individual- and family-level variables were selected with guidance from previous studies of youth employment problems and theory (e.g., Freeman and Wise 1982; Freeman and Holzer 1986; Ihlanfeldt and Sjoquist 1991) suggesting that youth labor market outcomes are affected by their productivity-related characteristics (completed years of schooling and age) and factors related to their propensity to supply their labor (need for youth's income, alternative supplies of family income, connections to the world of work, disability status, etc.).

Table 2 contains logistic regression results. Parameter estimates are consistent in sign and magnitude with previous research. The central-city indicator variable is significant and

negative for black and white male youths, supporting the earlier finding that youths living in central-city neighborhoods are less likely to be employed than youths living in the suburbs. Note that the central-city employment disadvantage appears to be greater in magnitude for white than black male youths (exponentiated parameter estimates suggest that the odds of being employed are 23% lower for central-city than suburban male youths for whites, while only 18% lower for blacks). These results also confirm that the central-city/suburbs distinction is not the most important factor explaining male youth employment.

5. Does the Central-City Employment Effect Vary?

Figure 1 represents the simple arithmetic difference between central city and suburban employment rates for black and white male youths. The maps illustrate to some extent the expected pattern of lower employment rates for central-city youths, especially in the cities typically associated with spatial accessibility problems. For example, 74% of black male youths living in Detroit's suburbs are employed, while only 41% of central-city black male youths are employed. Suburbanized black male youths in Chicago and Pittsburgh are employed at a rate of 60% while only 37% and 34% of central-city youths, respectively, are employed. The maps also clearly indicate two ways in which the expectations of the spatial mismatch hypothesis are not always met. First, the degree to which suburban and central-city employment rates differ varies considerably between metropolitan areas. Second, male youths living in central cities have *higher* employment rates than their suburban counterparts in 14 out of the 35 metropolitan areas for whites, and 13 out of the 35 metropolitan areas for blacks.

Two additional findings from the maps are notable. First, some of the metropolitan areas typically thought to suffer from spatial mismatch problems exhibit an empirical pattern not consist with the hypothesis. For example, central city employment rates exceed suburban employment rates for black male youths by only 6 percentage points in Boston and 10 percentage points in Philadelphia. Second, there are considerable racial differences in the geographic patterns. Most notably in Washington, D.C., the suburban employment rate exceeds the central city employment by 22 percentage points for black male youths, while the suburban employment rate is 11 percentage points *lower* than the central city employment rate for white male youths.

The parameter estimate for the central city indicator variable (b_1) in equation 1 is allowed to take on a different value for each metropolitan area included in the analysis to test for metropolitan contingency in the central-city employment disadvantage while controlling for individual- and family-level factors. Using the terminology of the expansion method (Casetti 1972), b_1 is expanded as a deterministic function of a block of dummy variables representing the sample of metropolitan areas included in the analysis.

$$b_{1j} = a_{10} + \mathbf{a}_1'\mathbf{D} \tag{2}$$

where $\mathbf{a}_1'$ is a row vector of parameters and D is a column vector of J-1 metropolitan area dummy variables (j = 1, 2, . . . , J metropolitan areas included in the analysis). Equation 2 is substituted into equation 1 to generate a logistic regression model that can be estimated with standard techniques.

$$\ln\frac{P_1}{P_0} = b_0 + a_{10}CC_i + \mathbf{a}_1'\mathbf{D} + \mathbf{b}'\mathbf{X}_i \tag{3}$$

Likelihood ratio tests (Agresti 1990; Wrigley 1985) reported in Table 3 indicate that expanding the parameter estimate for the central city indicator variable (CC_i) improves the fit of the model relative to the loss of degrees of freedom for black male youths ($\chi^2 = 64.87$, df = 34, $p < .01$), but not for white male youths ($\chi^2 = 39.41$, df = 34, $p > .05$).[3] We can thus conclude that the degree of employment disadvantage black male youths living in central-city neighborhoods suffer relative to their suburban counterparts in the same metropolitan area is contingent on the metropolitan area.

6. What Explains Metropolitan Variations in the Central-City Employment Effect?

A fully-specified expansion model including aggregate-level characteristics is estimated to explore which metropolitan characteristics are associated with the magnitude of the central city employment disadvantage. I focus on the effects of two types of metropolitan factors. First, the nature and condition of the local labor market (level and composition of demand for labor) may have an impact on the employment disadvantage imposed by living in the central city. Second, the internal spatial structure of the metropolitan area (i.e., the extent to which jobs are decentralized and the extent to which blacks are centralized) may influence whether living in the central city will affect employment. The parameter associated with the central-city indicator variable in equation 1 (b_1) is expanded as a function of metropolitan-level variables ($\mathbf{A}_j$) thought to influence the central-city employment effect:

$$b_{1j} = a_{10} + \mathbf{a}_1'\mathbf{A}_j \qquad (4)$$

a logistic regression model capable of being estimated is formulated upon substitution of equation 4 into equation 1:

$$\ln\frac{P_1}{P_0} = b_0 + a_{10}CC_i + \mathbf{b}'\mathbf{X}_i + \mathbf{a}_1'\mathbf{A}_j \qquad (5)$$

Five metropolitan-level variables are included in the model. Three measures represent labor market conditions, one represents the spatial structure of metropolitan areas, and the fifth controls for racial composition. Several studies have found the aggregate level of labor demand to be an important factor in explaining youth employment (Freeman 1991). Youths lack work experience, skills, and workplace socialization, and as a group make frequent transitions into and out of the labor market. Thus, they occupy a position close to the bottom of the labor queue. When labor demand in a local market is robust relative to labor supply, employers must go lower on the labor queue to fill open positions, and youths benefit. The employment disadvantage imposed by living in the central city may be mitigated in tight labor markets. The aggregate level of labor demand is measured by the adult white male unemployment rate.

Several studies have also examined the composition of labor demand, arguing that firms in certain industries disproportionately hire youths. The occupational distribution of jobs within firms also affects the propensity to hire youths. I cross-classified industries with occupations and calculated an index of labor demand composition similar to ones used by Freeman (1982) and Ihlanfeldt and Sjoquist (1991) to capture geographic differences in the distribution of industries and occupations.

$$DC_j = \sum_{l=1}^{L}\left(\frac{y_l}{y}\right) * W_{lj} * 100$$

where L represents the 63 industry/occupation categories, y_l is the male youth proportion of industry/occupation category l's workforce in the 100 largest MSAs, y is the male youth proportion of the total workforce in the 100 largest MSAs, and W_{lj} is the proportion of MSA j's workforce in industry/occupation category l. Metropolitan areas with a mix of industries and occupations more favorable than that of the 100 largest MSAs as a whole have values of the index greater than 100, and areas with a mix less favorable have values less than 100.

Previous research has found that recent changes in the demographic composition of the labor market have adversely affected the demand for youth and minority labor. Borjas (1986) found that the entrance of women into the labor force strongly impacted the labor market outcomes experiences of black men, especially youths. Cain and Finnie (1990) and Ihlanfeldt and Sjoquist (1991) also control for the demographic composition of the labor force. The variable used here is the ratio of white female adults to male youths of all demographic groups.

The main purpose of Ihlanfeldt and Sjoquist's (1991) paper was to argue that spatial inaccessibility to suburbanized employment affects the employment probabilities of central-city male youths. A continuing problem in spatial mismatch studies has been the conceptualization and measurement of the spatial separation between residential locations and the locations of job opportunities. Following Ellwood (1986), they measured spatial separation with the race- and sex-specific average travel time to work for persons using privately-owned vehicles in low-wage jobs in occupations that employ a disproportionate share of youths. They justified their use of this measure by arguing that it reflects actual workers' behavior, and because it reflects both commuting costs and distance. This measure also

simultaneously reflects residential and job location.[4] The measure of spatial structure used in this paper is similar, representing the race-specific average travel time to work in minutes for all workers using private automobiles in 12 industry-occupation categories found in previous research (Holloway 1993) to employ a disproportionate number of male youths. The employment disadvantage of living in a central-city neighborhood should be greater for youths in metropolitan area where jobs and residences are farther apart.

The black percentage of the metropolitan area's labor force is the final metropolitan-level variable, included in the models to control for the potential influence of the racial composition of the labor force on male youths' employment probabilities. According to labor queue ideas (Thurow 1975), minorities and youths occupy fairly low positions on employers' labor queues, and are thus last hired and first fired. A large minority population suggests a large pool at the bottom of the queue from which employers can draw. Thus, any individual will face greater competition and lower employment probabilities. Furthermore, the presence of large minority populations may also signal increased levels of racial discrimination in the labor market and thus benefit white male youths.

Table 4 contains the parameter estimates for the logistic regression model including metropolitan-level variables. Individual-level variables included in the model are identical to the ones displayed in Table 2. Metropolitan-level variables are entered twice into the model; once directly to allow for direct effects of the variables on the employment probabilities of male youths, and a second time interacted with the central-city indicator variable to account for the variability of the central-city variable. Because the central-city variable is effects coded, parameter estimates for the metropolitan-level variables reflect the *overall* effect of the

variables on employment probabilities. Parameter estimates for the interaction terms reflect differences between central-city and "average" youths in the parameter estimates for the metropolitan-level variables. Metropolitan-level variables are measured as simple arithmetic deviations from metropolitan means to avoid multicollinearity. The parameter estimate for the central-city indicator variable is thus interpreted as the difference in the log-odds of employment between central-city and "average" youths in a metropolitan area with average values for each of the metropolitan-level variables. The magnitude of the central-city effect for white male youths is relatively unchanged while the effect for black male youths is reduced substantially once the metropolitan-level variables are added to the model. Some of the aggregate central-city employment disadvantage observed for black male youths in simpler analyses apparently can be better attributed to characteristics of metropolitan labor markets than to central city residence.

Parameter estimates suggest large differences between the races in the overall sensitivity of employment probabilities to metropolitan-level variables. Male youths of both races are negatively impacted by living in areas with a high unemployment rate, yet employment probabilities appear to be more sensitive overall for white male than black male youths. Counter to expectations and previous findings, black male youths have *higher* employment probabilities in areas with a greater concentration of adult white women, perhaps suggesting that the degree of competition between minorities and white women has decreased over time. This finding may also reflect changes in the composition of demand in response to the nature of labor supply; i.e., firms may have relocated or changed the organization of their production to take advantage of the emerging female labor force (e.g., Nelson 1986). If the

increased demand for such labor outstrips the supply, black male youths may benefit. While the presence of women in the labor force may have *initially* decreased male youths' employment probabilities, this negative effect no longer appears to operate. Also contrary to expectations, the composition of demand index and the commute time variable do not have statistically significant direct effects on youths' employment probabilities. Some of this is made clear by examining the interaction effects, which suggest that suburban and central-city youths respond differently to their metropolitan context.

The interaction terms in the models presented in Table 4 indicate whether the magnitude of the central-city employment disadvantage is affected by the metropolitan-level variables. Positive parameter estimates make the central-city employment effect less negative (i.e., *reduce* the disadvantage of living in a central-city neighborhood), while negative estimates render the central-city effect more negative (i.e., *increase* the magnitude of the central-city employment disadvantage). The central-city employment disadvantage is higher in metropolitan areas with a large black population, and decreased by the degree of spatial separation between home and work for white male youths. For black male youths, the central-city employment disadvantage worsens as the composition of labor demand becomes more favorable to youths and as the degree of spatial separation between home and work increases (the parameter estimate for this interaction term is significant at $p = .06$). Metropolitan areas enjoying robust labor demand are plagued by a greater central-city employment disadvantage for black male youths (recall that the level of labor demand is inversely related to the white male unemployment rate).

Conditional probability plots of the statistically significant interaction terms are presented in Figures 2, 3, and 4 to aid in interpretation. Each of these plots were constructed using the parameter estimates contained in Table 4. Individual-level variables were set to their race-specific means (Table 1), and metropolitan variables were set to their means (0 because they are measured as deviations from the mean). Only the central-city variable and the metropolitan-level variable depicted were allowed to vary. The magnitude of the central-city employment disadvantage is visually represented as the vertical distance between the two lines. Figure 2 demonstrates that area unemployment rate has no effect on the central-city employment disadvantage for white male youths, while for black male youths, the disadvantage is greatest in the tightest labor markets. The graph also illustrates, however, that the central-city employment disadvantage is created by the inability to take advantage of tight labor markets exhibited by central-city black male youths relative to their suburban counterparts. Out of the four groups defined by race and residential location, suburban black male youths are the most sensitive to aggregate labor market conditions, and central-city black male youths are the least. This finding is potentially very significant. Most prior research has demonstrated that the employment probabilities of black youths are greatly improved as labor market conditions tighten. The results illustrated in Figure 2 suggest, however, that central-city black youths do not benefit. Since previous studies used 1980 data, this may indicate that social conditions in central cities may have worsened over the last decade.

Figure 3 illustrates the response of the central-city employment disadvantage to the degree of spatial separation between home and workplace as measured by average travel time to work. The gap between the lines decreases with increased values of the travel-time index

for whites, and increases for blacks. These racial differences are understandable to the degree that the commute-time variable accurately reflects the degree of employment decentralization. The downwardly sloping line for central-city black youths is thus consistent with the negative effect of employment inaccessibility reported in Ihlanfeldt and Sjoquist (1990). The upwardly sloping line for suburban black male youths suggests that suburban youths benefit from employment decentralization, presumably because they live closer to job opportunities.[5] The pattern for white male youths is more difficult to reconcile with spatial mismatch expectations. White male youths living in central-city neighborhoods enjoy an apparent employment *advantage* in metropolitan areas with long average commutes. Perhaps the white commute time variable is positively correlated with an unmeasured metropolitan-level characteristics favorable to the employment probability of central-city white male youths. Suburban white youths are basically unaffected by inter-metropolitan variations in spatial accessibility to employment.

The top panel of Figure 4 clearly shows that there is little difference in employment probabilities between central-city and suburban white male youths in metropolitan areas with small black proportions. A gap develops as the percentage black increases, however, with suburban youths benefiting and central-city youths suffering a relative disadvantage. The two lines diverge at a relatively constant rate, which accounts for the lack of an overall effect for the percentage black variable. The white suburban employment benefit associated with the percentage black variable is consistent with the argument that large minority populations engender more discrimination, perhaps because metropolitan areas with large black populations are more likely to have highly concentrated pockets of poverty in racially

segregated neighborhoods that sometimes serve as stereotypical symbols of race (see Wacquant 1993). The central-city employment disadvantage suffered by white male youths in minority-concentrated metropolitan areas may reflect the fact that the array of problems typically associated with the black urban underclass cross racial lines.

The bottom panel of Figure 4 demonstrates, contrary to expectations, that central-city black male youths do not benefit from a labor demand concentrated in industries and occupations that disproportionately hire youths. In fact, while the employment probabilities for suburban black male youths increase slightly (as they do for suburban and central-city white male youths), they decline sharply for central-city black male youths. Metropolitan areas with labor demand concentrated in industries and occupations that disproportionately hire youths include Las Vegas (Demand Composition Index = 126) and Orlando (Index = 113). Perhaps the specialized tourist-related industries that hire youths actively discriminate against central-city black youths. Alternatively, this metropolitan-level variable could reflect some unmeasured yet important metropolitan characteristic. For example, perhaps metropolitan area with a composition of demand supposedly favorable to youths are also characterized by severe economic atrophy of their central-cities. This finding certainly warrants further research.

7. Discussion and Conclusions

This paper set out to address 3 questions, which the empirical analysis provides answers to. To the question of differences in employment probabilities, this study clearly supports the generalization that central-city youths are less likely to be employment than suburban youths,

even when relevant individual- and family-level factors are controlled for. White male youths appear to suffer a greater disadvantage than black youths. The analysis also reveals, however, that the magnitude and direction of the central city-suburbs employment difference vary considerably between metropolitan areas. In the final section, the analysis revealed that the magnitude of the central city-suburban employment difference is systematically related to economic and spatial characteristics of metropolitan labor markets. While some of the relationships uncovered in this portion of the analysis are surprising and warrant further study, there are substantial theoretical and policy implications.

The most significant finding of this research is that spatial inaccessibility to employment cannot be considered a universal problem faced by youths living in central-city neighborhoods in all metropolitan areas. Theoretically, this clarifies some of the confusion that has surrounded the spatial mismatch hypothesis -- spatial accessibility issues are important in some metropolitan areas, but not in others. Policy implications are notable. Contrary to national, "one-size-fits-all" policies (e.g., Mark Hughes' "Mobility Strategy," 1989, 1995), policies designed to provide labor market assistance for central-city residents need to be crafted to allow for the unique ways in which metropolitan areas vary.

A second, somewhat ominous implication of the findings of this analysis is that black male youths living in central-city neighborhoods do not appear to benefit from any of the metropolitan labor market characteristics that historically have been of some importance. Most notably, central-city black male youths' employment probabilities' appear to no longer respond to the aggregate level of demand for labor measured by the adult white male unemployment rate, despite the findings of past research (Freeman 1991). Meanwhile, white

male youths and suburban black male youths exhibit employment responses to metropolitan labor market conditions that are more consistent with expectations. One sobering interpretation of these findings is either that social and economic conditions in central city neighborhoods are worsening for minority youths, or that black male youths are becoming so isolated from the labor market that they are no longer responsive to historically important labor market processes.

Several issues emerge from this study that need to be addressed in future research. First, given that this study has validated the argument that the central-city employment disadvantage varies across metropolitan areas, case studies of accessibility problems in carefully selected metropolitan areas are in order. Rather than being viewed as independent "tests" of the overall relevance of the spatial mismatch hypothesis, however, they should be conducted with the understanding that regardless of the results of research conducted in any one metropolitan area, accessibility issues may be more or less important in other metropolitan areas. Second, continued empirical research into the degree to which the central-city employment disadvantage varies is warranted. Especially important in this regard will be replications of this study conducted with different data, and over time. For example, has inter-metropolitan variability in the importance of accessibility issues become more or less pronounced over the last three decades? Does the condition of the national economy impact the degree to which inaccessibility affects employment? Another important aspect of replicating and validating the results of this study will be to incorporate greater accuracy and detail in identifying intra-metropolitan residential and workplace locations. A third avenue for future research concerns the relationships between metropolitan-level characteristics and

variations in the magnitude and direction of the central-city employment effect. This study was largely exploratory in this regard, and future research needs to refine conceptualizations of the issue and improve measurement and specification of empirical models.

Notes

1. Note, however, that Ellwood was quoted in the New York Times (3/3/91) as saying the "some real disadvantages [have come] from the movement of jobs to the suburbs. There is no question that in the 1980s it aggravated the problems of the poor."
2. Effects coding (-1, 1) changes the interpretation of parameter estimates to represent the difference between a central-city and an "average" youth. The difference between a central-city and a suburban youth is 2 times the given parameter estimate. Effects coding is used here to improve the parameterization of the models presented later.
3. Note that the addition of metropolitan-level variables (including interaction terms with the central-city indicator variable) provides a statistically significant improvement in the fit of the model for white male youths.
4. Quality data on the location of jobs within metropolitan areas is notoriously hard to find.
5. The apparent ability of suburban black male youths to take advantage of favorable labor market conditions may also reflect factors other than spatial accessibility to employment.

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Table 1: Definitions and Descriptive Statistics for Individual-Level Variables Included in the Logistic Regression Models.

	White Male Youths		Black Male Youths	
Variable	Mean	Standard Deviation	Mean	Standard Deviation
Employed? (Yes = 1)[a]	0.80	0.40	0.52	0.50
Age	21.19	2.11	20.93	2.11
Schooling (Years Completed)	12.10	2.12	11.31	2.08
Disability? (Yes = 1)	0.05	0.21	0.05	0.23
Youth Lives in Female Headed Household? (Yes = 1)	0.19	0.40	0.53	0.50
# Adult Workers in Youth's Household	1.77	1.04	1.42	1.14
Youth Have Kids? (Yes = 1)	0.01	0.09	0.03	0.17
Youth Married? (Yes = 1)	0.07	0.25	0.07	0.25
Youth Moved in Last Five Years? (Yes = 1)	0.40	0.49	0.43	0.50
Anyone in Youth's Household Receive Welfare? (Yes = 1)	0.05	0.23	0.24	0.42
Income Per Family Member, Net of Youth's Income	11940.78	10635.79	6656.30	6124.23
Youth Lives in Central City? (Yes = 1, No = -1)	-0.57	0.82	0.33	0.94
N	9045		3021	

[a] No = 0 unless otherwise indicated.

Table 2: Logistic Regression Model of Black and White Male Youths' Probability of Employment

	White Male Youths			Black Male Youths		
Variable	***b***	**Wald χ^2**	**e^b**	***b***	**Wald χ^2**	**e^b**
Age	0.1780	165.83**	1.19	0.1739	81.34**	1.19
Schooling	0.1673	127.75**	1.18	0.1991	67.20**	1.22
Disability	-1.4312	166.94**	0.24	-0.8582	20.37**	0.42
Female Headed Household ?	-0.1290	3.50	0.88	-0.2974	13.19**	0.74
# Adult Workers	0.1589	30.07**	1.17	0.2613	45.81**	1.30
Kids ?	-0.0963	.12	0.91	0.3639	2.72	1.44
Married ?	0.2184	3.32	1.24	0.6170	14.45**	1.85
Moved ?	0.0515	.77	1.05	0.2245	7.84**	1.25
Welfare ?	-0.3813	12.18**	0.68	-0.2974	9.33**	0.74
Net Family Income	$-3.2*10^{-6}$	1.20	1.00	$.82*10^{-5}$	6.21*	1.00
Central City ?	-0.1329	16.84**	0.88	-0.0978	5.58*	0.91
Constant	-4.5317	245.69**		-6.1456	183.92**	
-2LL		8300.47			3924.03	
Likelihood Ratio χ^2 (vs. Null Model)		848.01**			507.63**	

* Significant at $p < .05$
** Significant at $p < .01$

Table 3: Logistic Regression Model Comparisons

	-2LL	ρ^2	PCP[c]	NPSI[d]	Likelihood Ratio χ^2 vs. Null Model	Likelihood Ratio χ^2 vs. Model 1
WHITE MALE YOUTHS						
MODEL 1: Individual-level Predictors	8300.47	0.0927	80.74	5.53	848.01** (df=11)	
MODEL 2: Model 1 Plus Central City/Metro Dummy Interaction Terms	8261.06	0.0970	80.81	5.89	887.42** (df=45)	39.41 (df=34)
MODEL 3: Model 1 Plus Metropolitan Variables and Central City/Metropolitan Variable Interaction Terms	8219.18	0.1016	80.63	5.00	929.30** (df=21)	81.29** (df=10)
BLACK MALE YOUTHS						
MODEL 1: Individual-level Predictors	3924.03	0.1145	66.70	30.42	507.63** (df=11)	
MODEL 2: Model 1 Plus Central City/Metro Dummy Interaction Terms	3859.16	0.1292	66.95	30.94	572.50** (df=45)	64.87** (df=34)
MODEL 3: Model 1 Plus Metropolitan Variables and Central City/Metropolitan Variable Interaction Terms	3886.82	0.1229	67.20	31.47	544.84** (df=21)	37.21** (df=10)

* Significant at $p < .05$
** Significant at $p < .01$

[c] Percentage Correctly Predicted

[d] Normalized Prediction Success Index (see Wrigley 19985).

Table 4: Logistic Regression Model of Black and White Male Youths' Probability of Employment, Metropolitan Variables[a] and Interaction Terms Included[b].

	White Male Youths			Black Male Youths		
Variable	*b*	Wald χ^2	e^b	*b*	Wald χ^2	e^b
Central City?	-0.1345	13.75**	0.87	-0.0695	1.91	0.93
Unemployment Rate	-0.2238	24.45**	0.80	-0.1480	5.25*	0.86
Youth-Favoring Labor Demand (Industry/ Occupation Mix)	0.0078	1.61	1.01	-0.0105	1.75	0.99
Potential Labor Supply Competition with Adult White Women	0.0742	1.04	1.08	0.2351	10.06**	1.27
Average Spatial Separation Between Home and Workplace	0.0399	2.03	1.04	0.0070	.20	1.01
Percentage of Labor Force Black	0.0002	.0011	1.00	-0.0035	.22	1.00
CC*Unemployment	0.0152	.11	1.02	0.1506	5.42*	1.16
CC*Demand	0.0031	.25	1.00	-0.0162	4.29*	0.98
CC*Supply Competition	0.0836	1.33	1.09	-0.0862	1.36	0.92
CC*Spatial Structure	0.0613	4.82*	1.06	-0.0299	3.58	0.97
CC*Percentage Black	-0.0169	8.19**	0.98	0.0033	0.19	1.00

* Significant at $p < .05$
** Significant at $p < .01$

[a] Metropolitan-level variables are measured as arithmetic deviations from metropolitan means to avoid multicollinearity.

[b] Individual-level variables as in Table 3, results not displayed to conserve space. Full results are available from the author upon request.

Figure Captions

Figure 1: Percentage Employed: Absolute Difference Between Central-City and Suburban Youths.

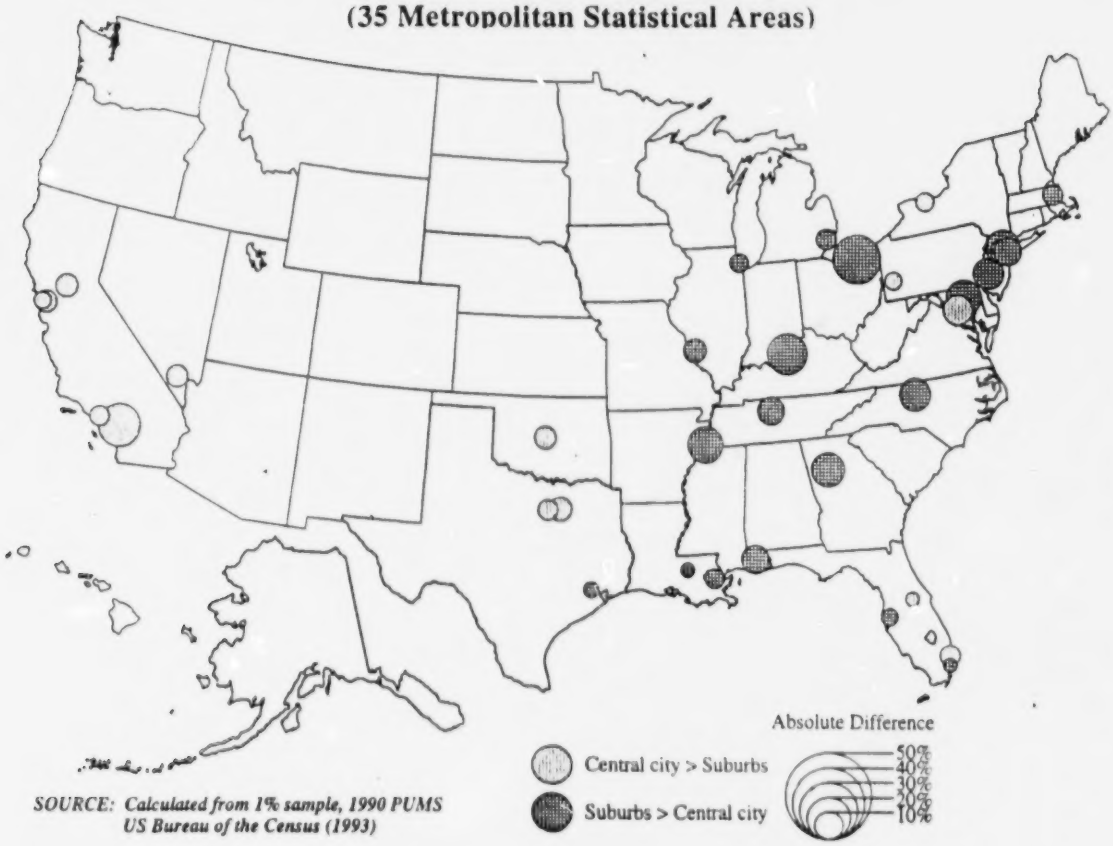
Figure 2: Estimated Probability of Being Employed vs. Metropolitan (Adult White Male) Unemployment Rate.

Figure 3: Estimated Probability of Being Employed vs. Race-Specific Average Travel Time to Work in Minutes.

Figure 4: Estimated Probability of Being Employed vs. Percentage of the Labor Force Black and vs. Index of Youth-Oriented Labor Demand.

White Male Youths, 1990

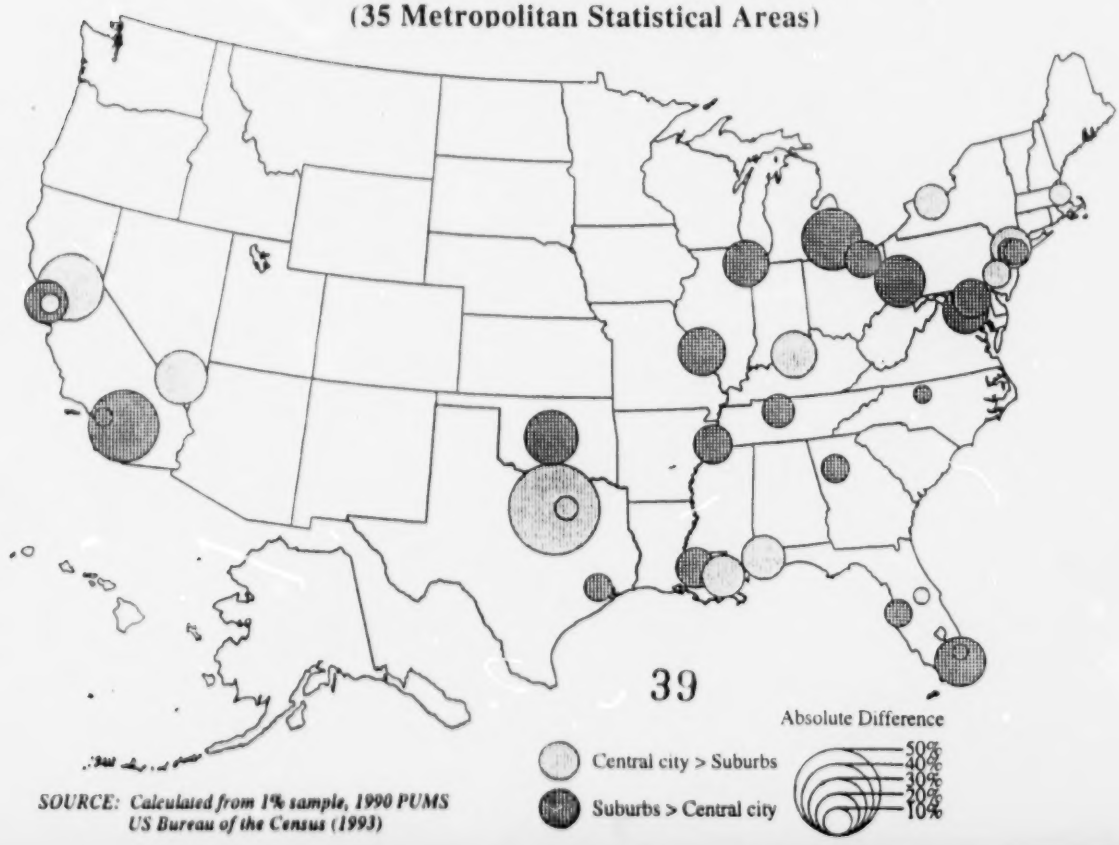
(35 Metropolitan Statistical Areas)



SOURCE: Calculated from 1% sample, 1990 PUMS
US Bureau of the Census (1993)

Black Male Youths, 1990

(35 Metropolitan Statistical Areas)



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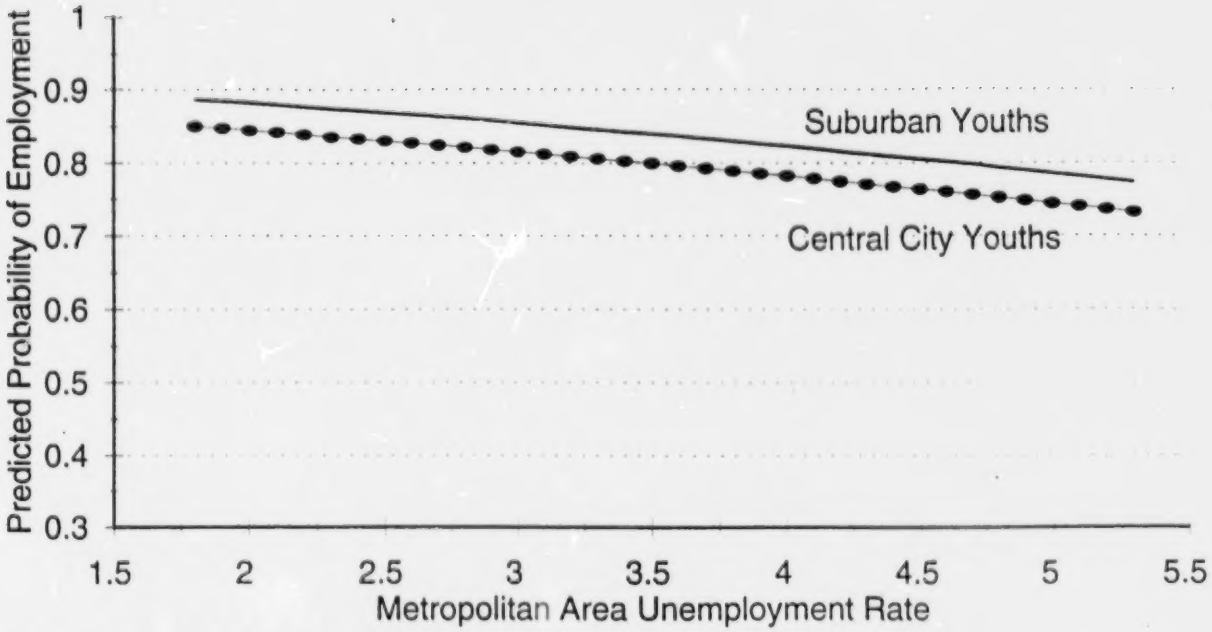
White Male Youths



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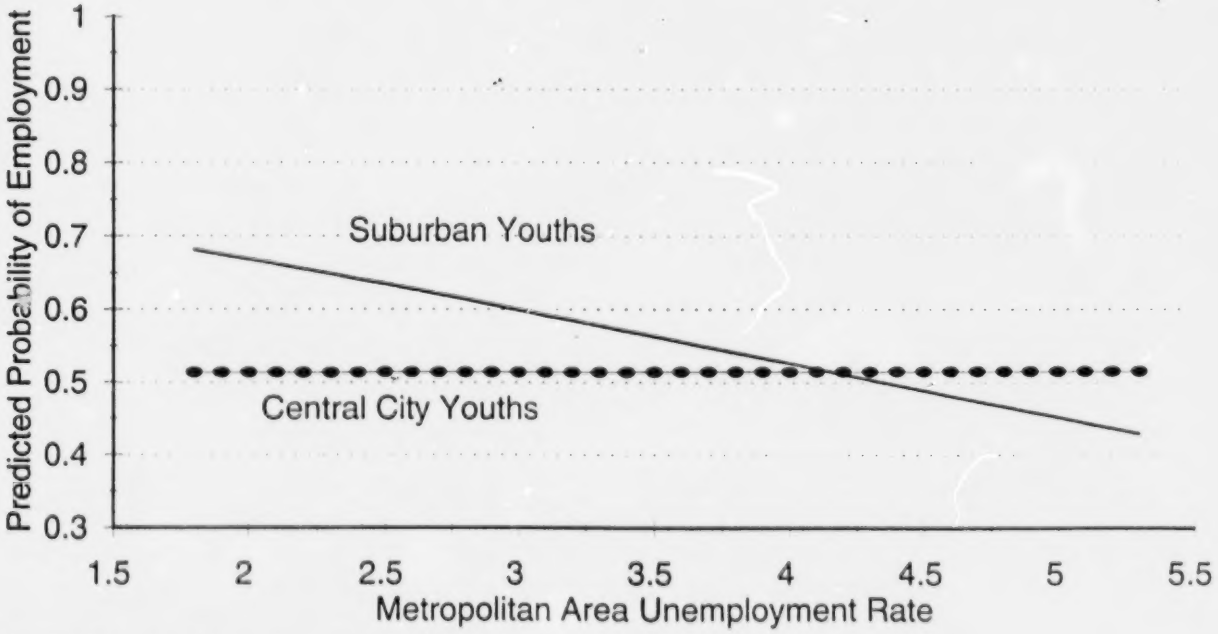
Black Male Youths



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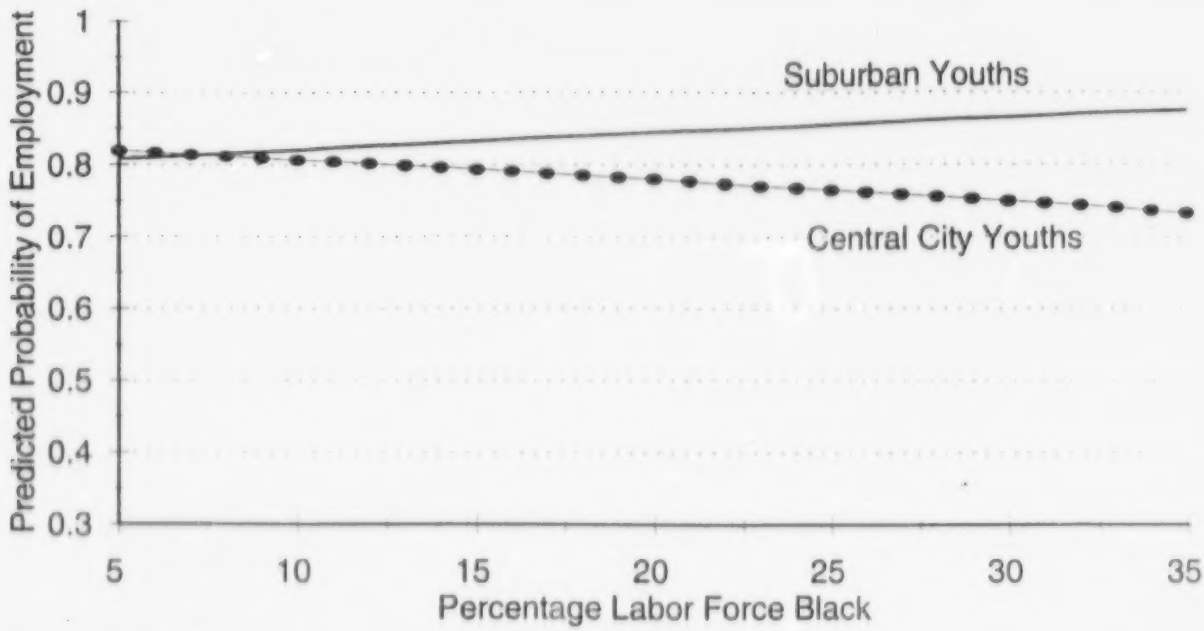

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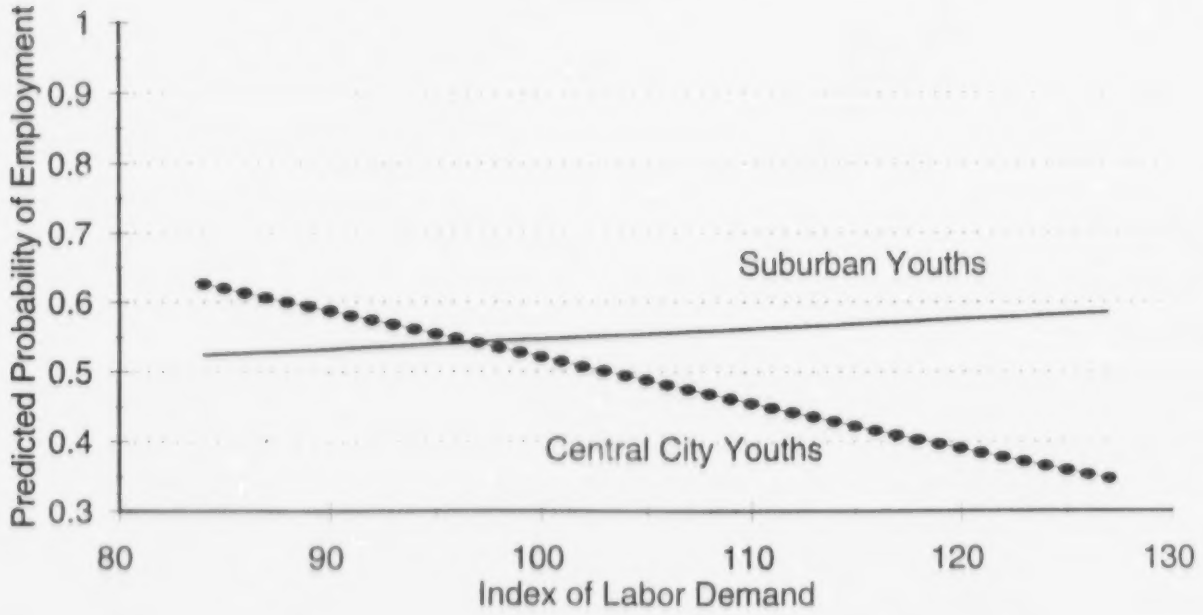

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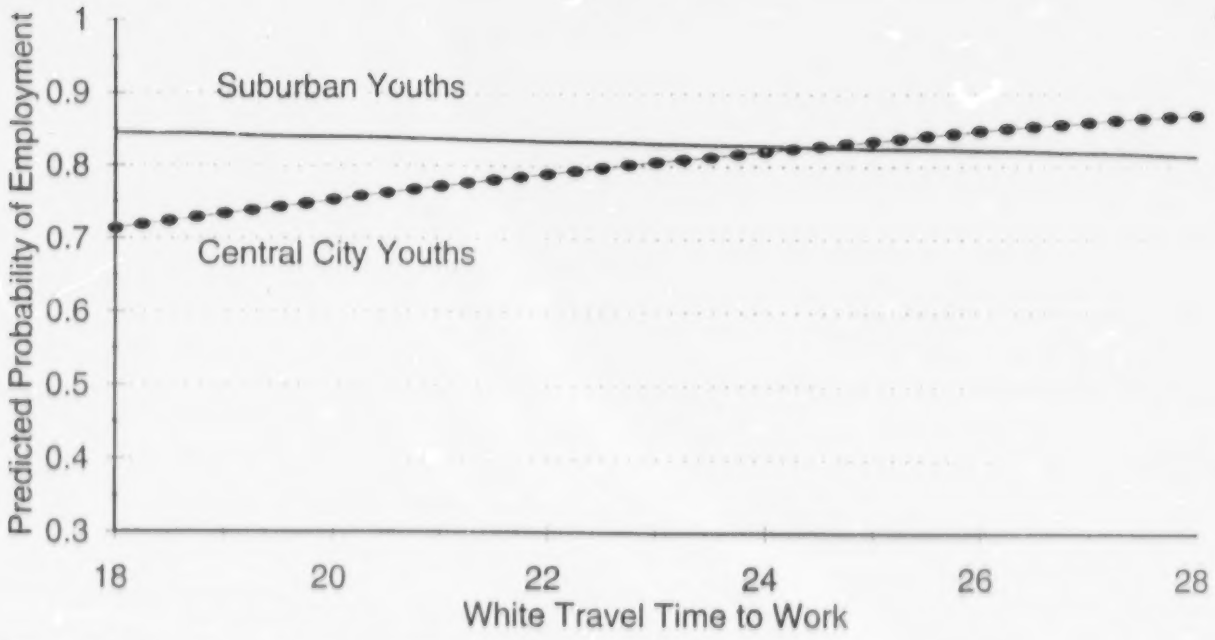
White Male Youths



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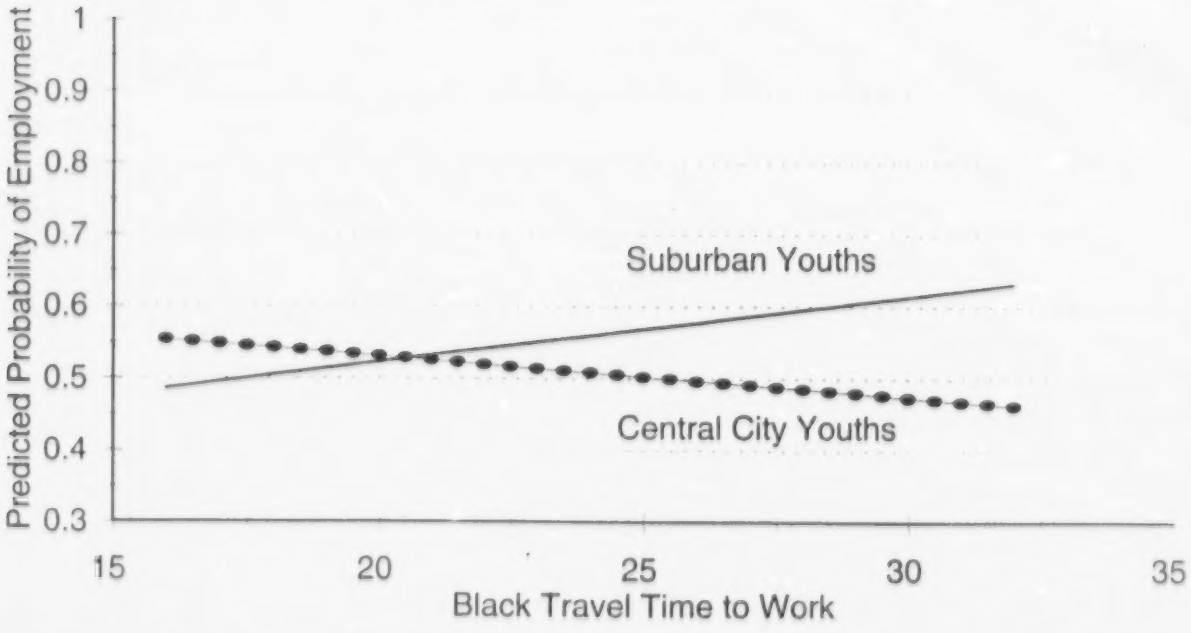

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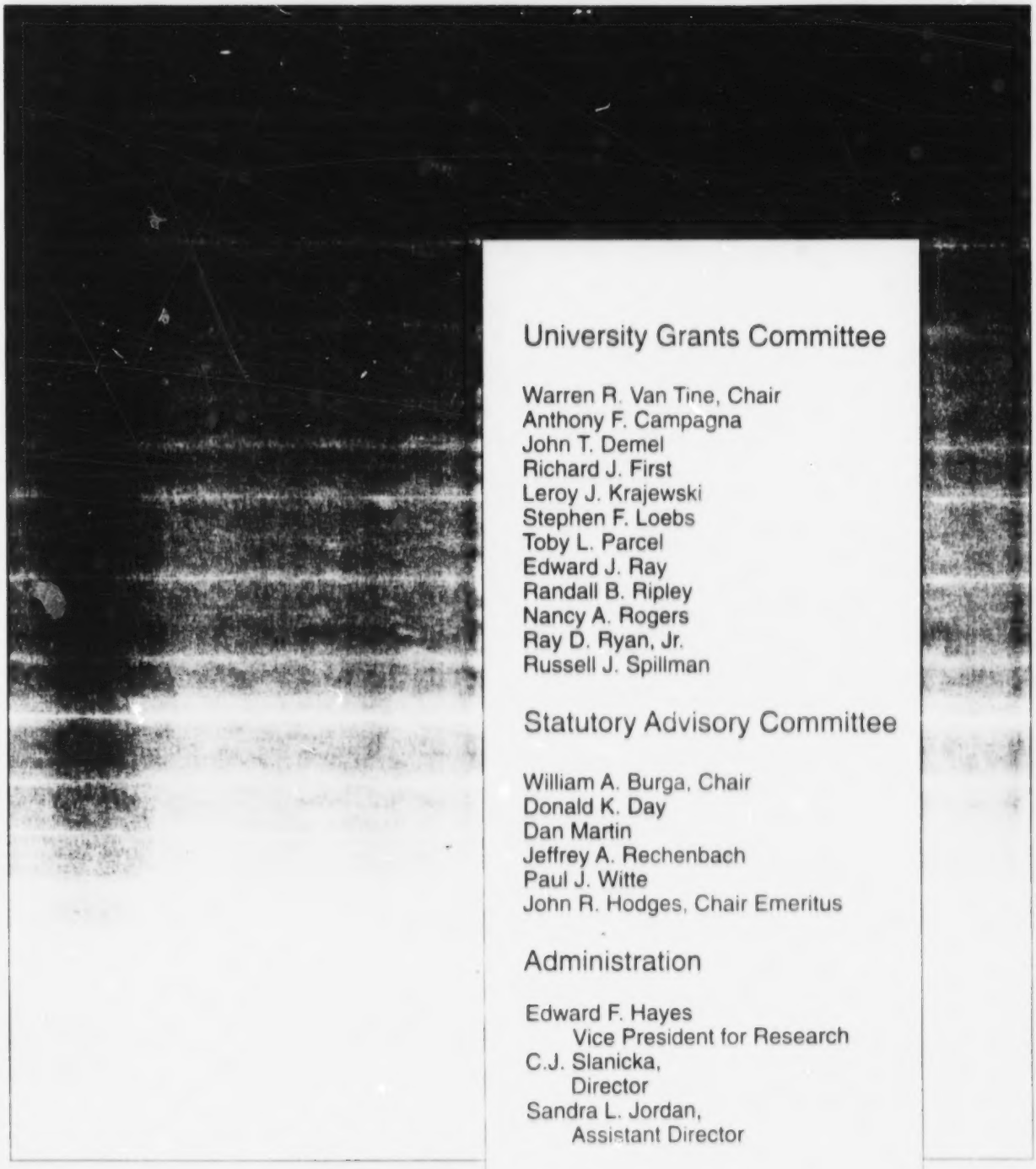

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